L – Metro Street Design Policies/Designations

CHAPTER 1
1.3.5 Designing the Transportation System

The design and function of individual transportation facilities and entire systems have a significant impact on adjacent land uses and the character of the communities they serve. As a result, transportation systems planning must consider larger regional and community goals and values, such as protection of the environment, the regional economy and the quality of life that area residents presently enjoy.

The Regional Transportation Plan measures economic and quality-of-life impacts of the proposed system by evaluating key indicators, such as access to jobs and retail services, mode share, vehicle miles traveled, travel times, travel speeds, level of congestion and air quality impacts. Other key indicators include economic benefits to the community, access to transportation by the traditionally underserved, including low-income and minority households and the disabled, energy costs and protection of natural resources. The Regional Transportation Plan defines a transportation system that balances all of the policies in this plan. Sometimes these policies are in conflict – so each transportation project or program must be evaluated in terms of financial constraints, associated social, economic and environmental impacts, and how it best achieves an overall balance between those conflicting goals.

The following policy guides planning and implementation of the region's transportation system.

Policy 11.0. Regional Street Design
Design regional streets with a modal orientation that reflects the function and character of surrounding land uses, consistent with regional street design concepts.
a. Objective: Support local implementation of regional street design concepts in local transportation system plans.

Regional street design policies address federal, state and regional transportation planning mandates with street design concepts intended to support local implementation of the 2040 Growth Concept. The design concepts reflect the fact that streets perform many, often conflicting functions, and the need to reconcile conflicts among travel modes to make the transportation system safer for all modes of travel. Implementation of the design concepts is intended to promote community livability by balancing all modes of travel and address the function and character of surrounding land uses when designing streets of regional significance.

Regional street design concepts

Regional street design concepts are intended to serve multiple modes of travel in a manner that supports the specific needs of the 2040 land-use components. The street design concepts fall into five broad classifications:

- **Throughways** – emphasize motor vehicle travel and connect major activity centers, industrial areas and intermodal facilities

- **Boulevards** – serve major centers of urban activity and emphasize public transportation, bicycle and pedestrian travel while balancing the many travel demands of intensely developed areas

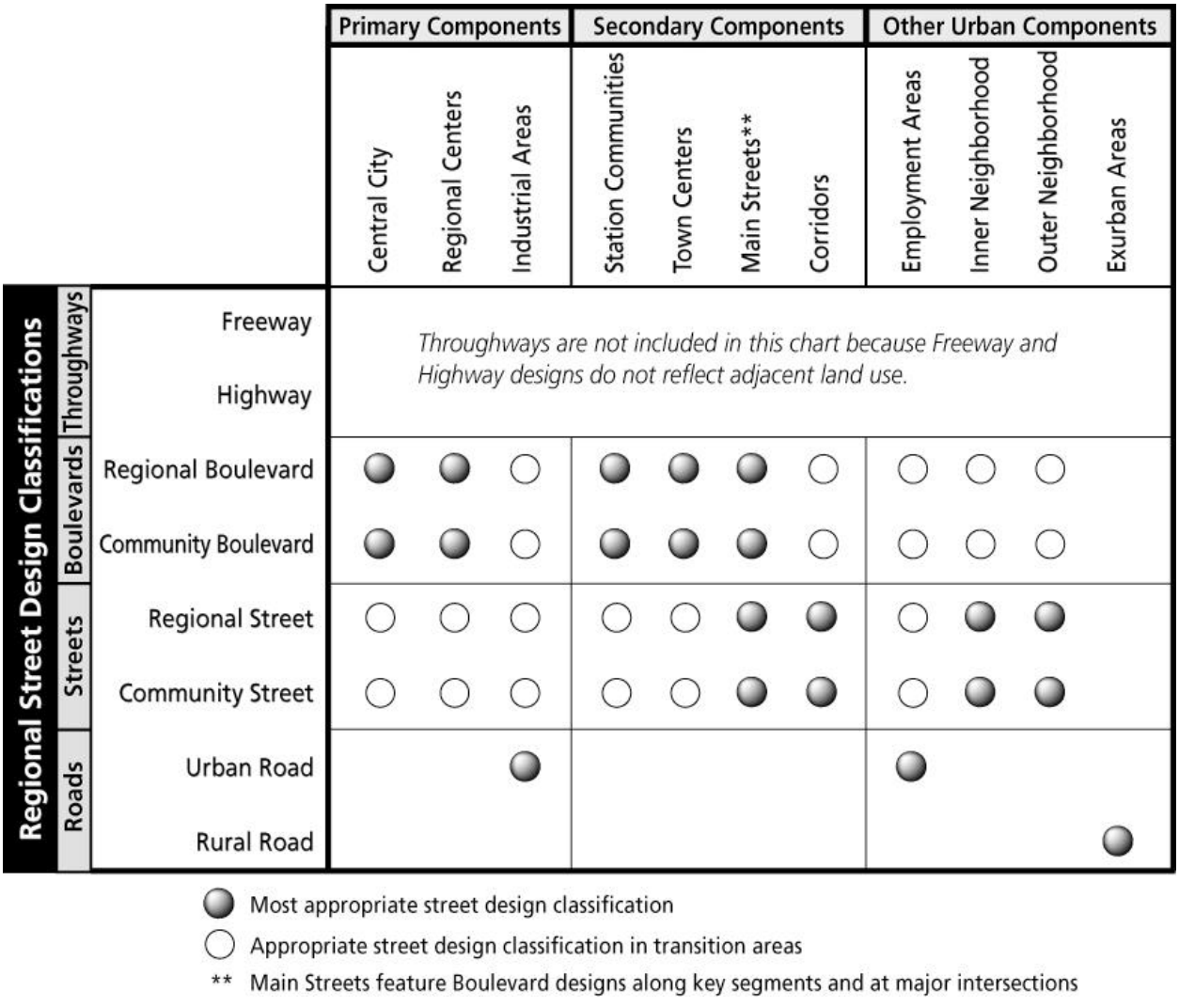
- **Streets** – serve transit corridors, main streets and neighborhoods with designs that integrate many modes of travel and provide easy pedestrian, bicycle and public transportation travel

- **Roads** – are traffic-oriented with designs that integrate all modes but primarily serve motor vehicles

- **Local streets** – complement the regional system by serving neighborhoods and carrying local traffic.

These design concepts apply to the regional system as they relate to specific 2040 Growth Concept land-use components. Figure 1.3 provides a chart of regional street design classifications for roadways that serve a given 2040 land use. The most appropriate street design classification for roadways that serve a given land use is indicated with a solid circle(s). Separate regional street design guidelines were developed to guide local implementation of the design concepts. A detailed discussion of these guidelines can be found in *Creating Livable Streets: Street Design for 2040*. The regional street design map, Figure 1.4, applies the regional street design concepts to streets of regional significance. Following Figure 1.4 is a detailed description of the purpose and design emphasis of each design concept.

Figure 1.3
Regional Street Design Classifications and the 2040 Growth Concept



Throughways

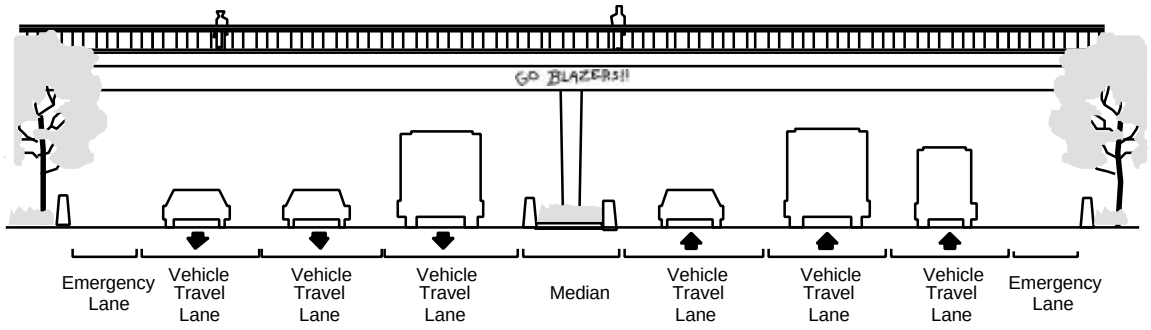
The purpose of throughways is to connect major activity centers within the region, including the central city, regional centers, industrial areas and intermodal facilities to one another and to points outside the region. Throughways are divided into limited access freeway designs where all intersections have separated grades, and highways that include a mix of separate and at-grade intersections.

Both freeways and highways are designed to provide high-speed travel for longer motor vehicle trips throughout the region, are primary freight routes and serve all 2040 Growth Concept land-use components. In addition to facility designs that promote mobility, throughways may also benefit from access management and advanced traffic management system techniques. These facilities may carry transit through-service, with supporting amenities limited to transit stations. These facilities may also incorporate transit-priority design treatment where appropriate, and may incorporate light rail or other high-capacity transit.

Freeways

Freeways usually consist of four to six vehicle travel lanes, with additional lanes in some situations. They are completely divided, with no left-turn lanes. Freeway designs have few street connections, and always occur at separated grades with access controlled by ramps. There is no driveway access to freeways or buildings oriented toward these facilities – only emergency parking is allowed. Freeway designs do not include pedestrian amenities, with the exception of improved crossings on overpasses and access ramps. Bikeways designed in conjunction with freeway improvements usually are separated facilities. Figure 1.5 illustrates a typical cross-section of a freeway.

Figure 1.5
Freeway Design Elements



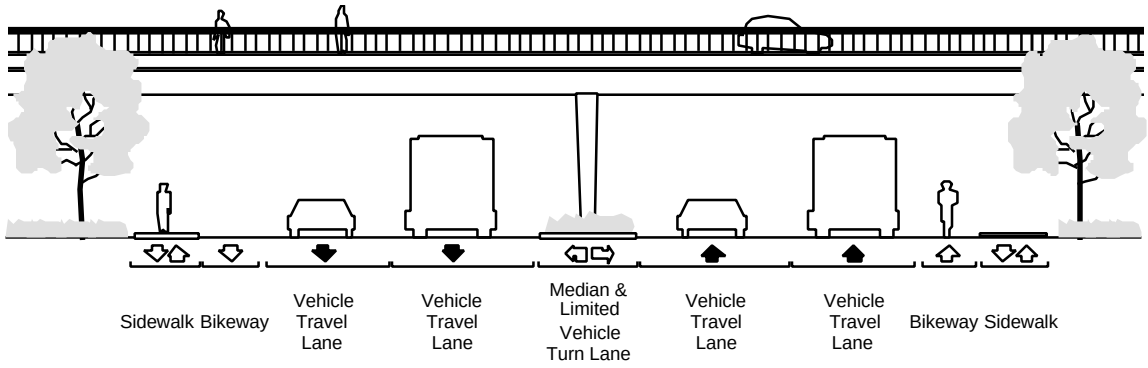
Source: Metro

Highways

Highways usually consist of four to six vehicle travel lanes, with additional lanes in some situations. Highway designs have few street connections, and they may occur at same-grade or on separate grades. Highways are usually divided with a median, but also have left-turn lanes where at-grade intersections exist. There are few driveways on highways, and buildings are not usually oriented toward these facilities. On-street parking is usually prohibited in highway designs, but may exist in some locations.

Highway designs include striped bikeways and sidewalks with optional buffering. Improved pedestrian crossings are located on overpasses, underpasses and at same-grade intersections. Figure 1.6 illustrates a typical cross-section of a highway.

Figure 1.6
Highway Design Elements



Source: Metro

Boulevards

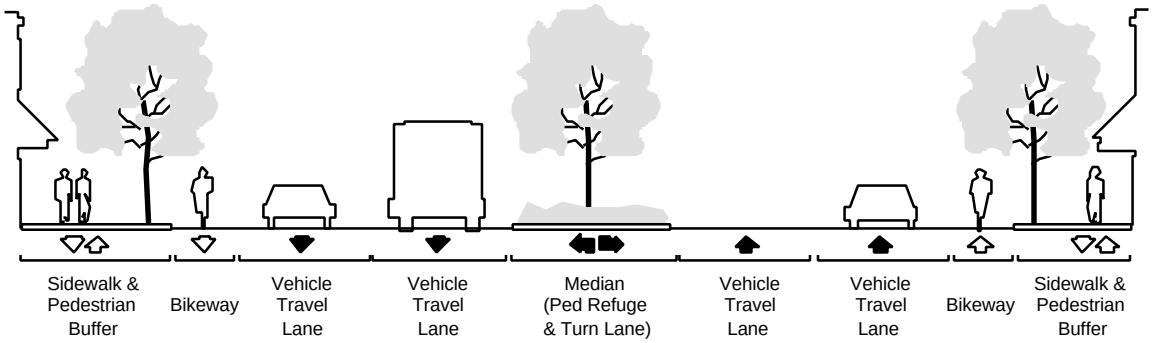
Boulevards are designed with special amenities that promote pedestrian, bicycle and public transportation travel in the districts they serve. Boulevards serve the multi-modal needs of the region's most intensely developed activity centers, including the central city, regional centers, station communities, town centers and some main streets. As such, these facilities may benefit from access management, traffic calming and ATMS techniques that reinforce pedestrian, bicycle and public transportation travel. Boulevards are divided into regional and community-scale designs.

Regional boulevards

Regional boulevards mix a significant amount of motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented toward the street. These designs feature low to moderate vehicle speeds and usually include four vehicle lanes. Additional lanes or one-way couplets may be included in some situations. Regional boulevards have many street connections and some driveways, although combined driveways are preferable. These facilities may include on-street parking when possible. The center median serves as a pedestrian refuge and allows for left-turn movements at intersections.

Regional boulevards are designed to be transit-oriented, with high-quality service and substantial transit amenities at stops and station areas. Pedestrian improvements are substantial on boulevards, including broad sidewalks, pedestrian buffering, special street lighting and crossings at all intersections with special crossing amenities at major intersections. These facilities have bike lanes or wide outside lanes where bike lanes are not physically possible, or are shared roadways where motor vehicle speeds are low. They also serve as primary freight routes and may include loading facilities within the street design. Loading facilities should occur on side streets, where feasible. Figure 1.7 illustrates a typical cross-section of a regional boulevard.

Figure 1.7
Regional Boulevard Design Elements

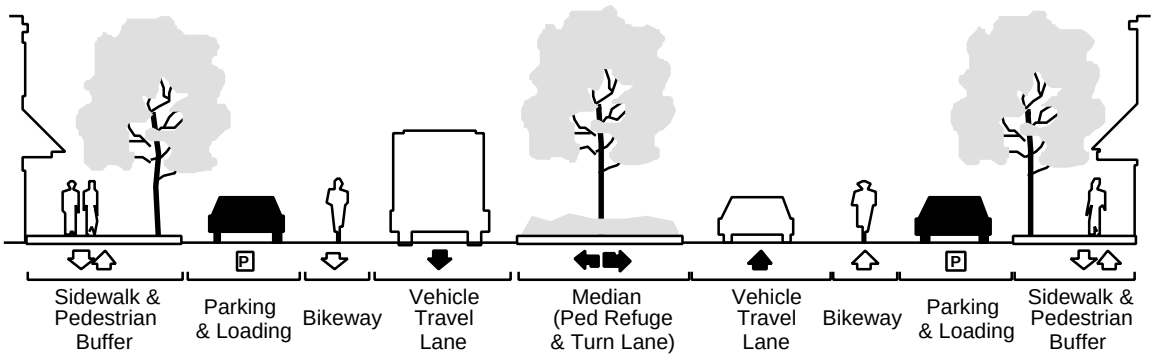


Source: Metro

Community boulevards

Community boulevards mix motor vehicle traffic with public transportation, bicycle and pedestrian travel where dense development is oriented toward the street. These facilities are designed for low motor vehicle speeds and usually include four vehicle lanes and on-street parking. Fewer vehicle lanes may be appropriate in some situations, particularly when necessary to provide on-street parking. Community boulevards have many street connections and some driveways, although combined driveways are preferable. Where appropriate, center medians offer a pedestrian refuge and allow for left turn movements at intersections. Figure 1.8 illustrates a typical cross-section of a community boulevard.

Figure 1.8
Community Boulevard Design Elements



Source: Metro

Community boulevards are designed to be transit-oriented, with high-quality service supported by substantial transit amenities at stops and station areas. Pedestrian improvements are also substantial,

including broad sidewalks, pedestrian buffering, special street lighting and crossings at all intersections with special crossing amenities at major intersections. Community boulevards have striped or shared bikeways and some on-street parking. These facilities also serve as secondary freight routes, and may include loading facilities within the street design. Loading facilities should occur on side streets, where feasible.

Boulevard intersections
Boulevard design classifications are usually focused on centers and some main streets where a pedestrian and transit-oriented street design can best complement higher density, mixed-use development patterns. However, there are many locations where corridors and some main streets intersect along major streets. At these intersections, motor vehicle traffic must be managed to limit negative impacts on other modes and adjacent land uses. While boulevard intersections accommodate a significant amount of motor vehicle traffic, they are designed with special amenities that promote pedestrian, bicycle and public transportation travel. Pedestrian improvements are substantial, including broad sidewalks, special lighting, crossings on all streets and special crossing features where unusually heavy motor vehicle traffic is present.

Streets

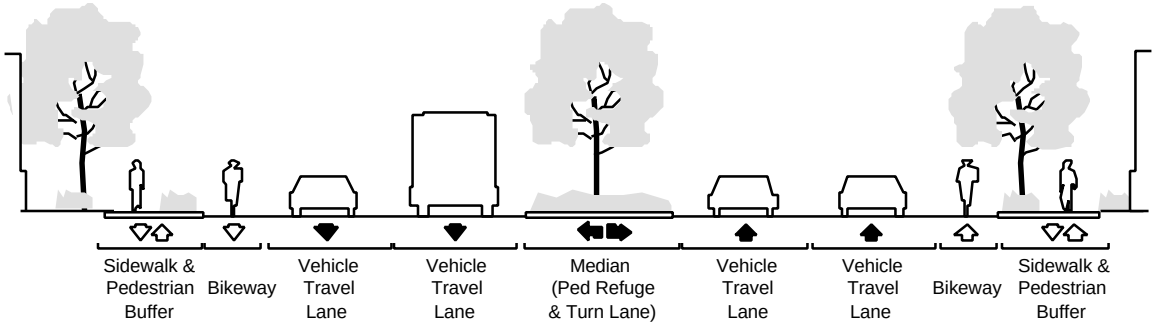
Streets are designed with amenities that promote pedestrian, bicycle and public transportation travel in the districts they serve, particularly where development densities warrant special transit and pedestrian design consideration. Streets serve the multi-modal needs of the region's corridors, neighborhoods and some main streets. As such, these facilities may benefit from access management, traffic calming and ATMS techniques that enhance pedestrian, bicycle and public transportation travel, while providing appropriate vehicle mobility. Streets are divided into regional and community scale designs.

Regional streets
Regional streets are designed to carry significant vehicle traffic while also providing for public transportation, bicycle and pedestrian travel. These facilities serve a development pattern that ranges from low-density residential neighborhoods to more densely developed corridors and main streets, where buildings are often oriented toward the street at major intersections and transit stops. Regional street designs accommodate moderate motor vehicle speeds and usually include four vehicle lanes. Additional motor vehicle lanes may be appropriate in some situations. These facilities have some to many street connections, depending on the district they are serving. Regional streets have few driveways that are combined whenever possible. On-street parking may be included, and a center median serves as a pedestrian refuge and allows for left turn movements at intersections.

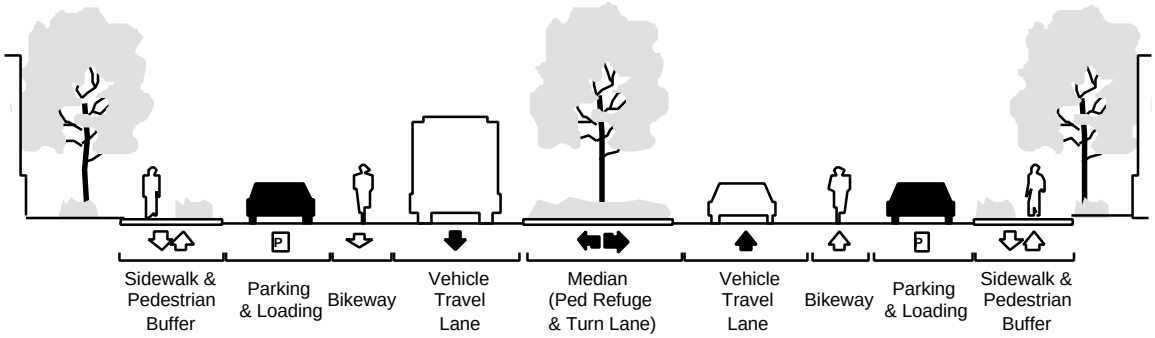
These facilities are designed to be transit-oriented, with high-quality service and substantial transit amenities at stops and station areas. Although less substantial than in boulevard designs, pedestrian improvements are important along regional streets, including sidewalks that are buffered from motor vehicle travel, crossings at all intersections and special crossing amenities at major intersections. Regional streets have bike lanes or wide outside lanes where bike lanes are not physically possible, or are shared roadways where motor vehicle speeds are low. They also serve as primary freight routes and may include loading facilities within the street design, where appropriate. Figure 1.9 illustrates a typical cross-section of a regional and community street.

Figure 1.9
Regional and Community Street Design Elements

Regional Street Design Elements



Community Street Design Elements



Source: Metro

Community streets

Community streets are designed to carry vehicle traffic while providing for public transportation, bicycle and pedestrian travel. These facilities serve lower-density residential neighborhoods as well as more densely developed corridors and main streets, where buildings are often oriented toward the street at main intersections and transit stops. Community street designs allow for moderate motor vehicle speeds and usually include four motor vehicle lanes and on-street parking. However, fewer travel lanes may be appropriate when necessary to provide for on-street parking. These facilities have some to many street connections, depending on the 2040 Growth Concept land-use components they serve. Community streets have few driveways that are shared when possible. A center median serves as a pedestrian refuge and allows for left-turn movements at intersections.

Community streets are transit-oriented in design, with transit amenities at stops and station areas. Although less substantial than in boulevard designs, pedestrian improvements are important on community streets, including sidewalks that are buffered from motor vehicle travel, crossings at all

intersections and special crossing features at major intersections. Community streets have striped or shared bikeways. These facilities also serve as secondary freight routes and may include loading facilities within the street design, where appropriate. Loading facilities should occur on side streets, where feasible.

Roads

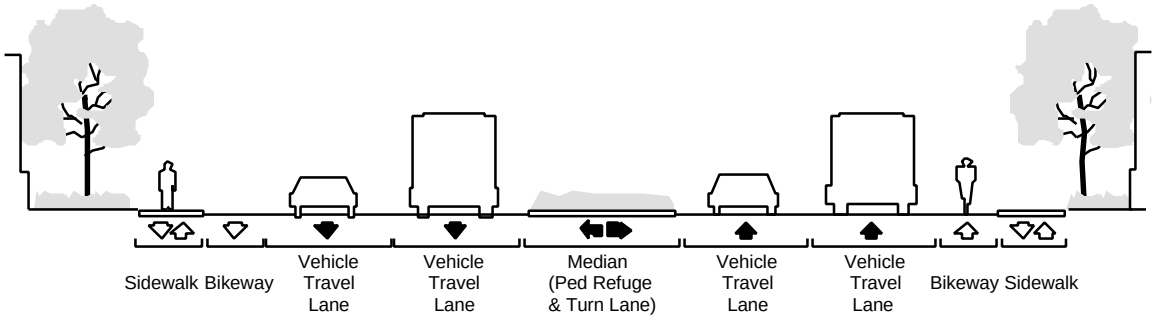
Roads are traffic-oriented designs that provide motor vehicle mobility in the 2040 Growth Concept land-use components they serve and accommodate a minimal amount of pedestrian and public transportation travel. These facilities may benefit from access management and ATMS techniques. Roads serve the travel needs of the region's lower density industrial and employment areas as well as rural areas located outside the urban growth boundary. Roads are, therefore, divided into urban and rural designs.

Urban roads

These facilities are designed to carry significant motor vehicle traffic while providing for some public transportation, bicycle and pedestrian travel. Urban roads serve industrial areas, intermodal facilities and employment centers where buildings are less oriented toward the street. These facilities also serve new urban areas (UGB additions) where plans for urban land use and infrastructure are not complete. Urban roads are designed to accommodate moderate vehicle speeds and usually include four motor vehicle lanes, although additional lanes may be appropriate in some situations. These designs have some street connections, but few driveways. Urban roads rarely include on-street parking, and a center median primarily serves to optimize motor vehicle travel and to allow for left-turn movements at intersections.

Urban roads serve as primary freight routes and often include special design treatments to improve freight mobility. These facilities are designed for transit through-service, with limited amenities at transit stops. Sidewalks are included in urban road designs, although buffering is optional. Pedestrian crossings are included at intersections. Urban roads have striped bikeways. Figure 1.10 illustrates a typical cross-section of an urban road.

Figure 1.10
Urban Road Design Elements



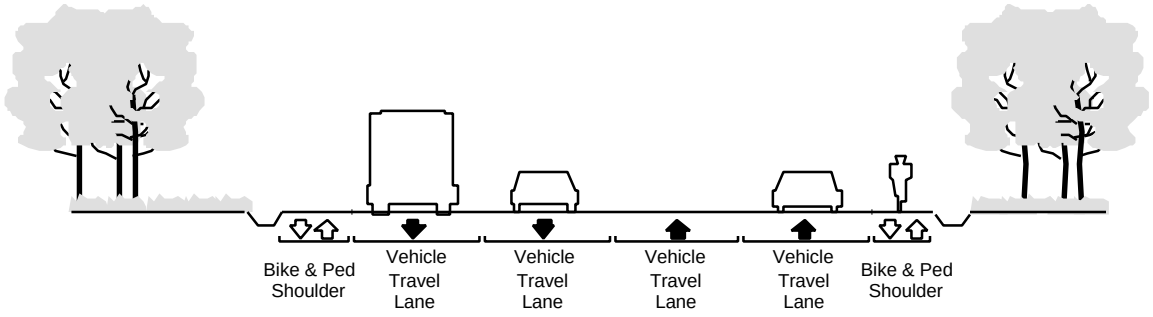
Source: Metro

Rural roads

Rural roads are designed to carry rural traffic while accommodating limited public transportation, bicycle and pedestrian travel. In some cases rural roads serve to connect urban traffic to throughways. Rural

roads serve urban reserves, rural reserves and green corridors, where development is widely scattered and usually located away from the road. These facilities are designed to allow moderate motor vehicle speeds and usually consist of two to four motor vehicle lanes, with occasional auxiliary lanes appropriate in some situations. Rural roads have some street connections and few driveways. On-street parking occurs on an unimproved shoulder, and is usually discouraged. These facilities may include center turn lanes, where appropriate. Figure 1.11 illustrates a typical cross-section of a rural road.

Figure 1.11
Rural Road Design Elements



Source: Metro

Rural roads serve as primary freight routes and often provide important farm-to-market connections. Special design treatments to improve freight mobility are therefore important in these designs. Rural roads rarely serve public transportation, but may include limited amenities at rural transit stops where transit service does exist. Bicycles and pedestrians share a common striped shoulder on these facilities, and improved pedestrian crossings occur only in unique situations (such as rural schools or commercial districts).

Policy 12.0. Local Street Design
Design local street systems to complement planned land uses and to reduce dependence on major streets for local circulation, consistent with Section 6.4.5 in Chapter 6 of this plan.

Local streets include all facilities not identified on the regional motor vehicle system map in Figure 1.11 of this plan. Local streets serve the immediate travel needs of the region at the neighborhood level. These facilities are multi-modal and are designed to serve most short automobile, bicycle and pedestrian trips. They generally do not carry freight in residential areas, but are important to freight movement in industrial and commercial areas. Local streets may serve as transit routes in some situations. Local street designs include many connections with other streets, and bicycle and pedestrian accessways where topography or existing development patterns prevent full street extensions.

Policy 13.0. Regional Motor Vehicle System
Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.

a. Objective: Provide for statewide, national and international connections to and from the region, consistent with the Oregon Transportation Plan.
b. Objective: Provide a system of principal arterials for long-distance, high-speed, interstate, inter-region and intra-region travel.
c. Objective: Provide an adequate system of arterials that supports local and regional travel.
d. Objective: Provide an adequate system of local streets that supports localized travel, thereby reducing dependence on the regional system for local travel.
e. Objective: Maintain an acceptable level of service on the regional motor vehicle system during peak and off-peak periods of demand, as defined in Table 1.2.
f. Objective: Minimize the effect of improved regional access outside the urban area.
g. Objective: Minimize the impact of urban travel on rural land uses. Limit access to and minimize urban development pressure on rural land uses and resource lands by maintaining appropriate levels of access to support rural activities, while discouraging urban traffic.
h. Objective: Implement a congestion management system to identify and evaluate low cost strategies to mitigate and limit congestion in the region.

These policies and objectives direct the region's planning and investment in the regional motor vehicle system. The regional motor vehicle system is designed to provide access to the central city, regional centers, industrial areas and intermodal facilities with an emphasis on mobility between these destinations. The regional motor vehicle system is shown in Figure 1.12 of this plan.

This plan recognizes the need to accommodate a variety of trip types on the regional motor vehicle system that include personal errands, commuting to work or school, commerce, freight movement and public transportation. In general, this plan recognizes there would be a higher degree of mobility during the mid-day compared to the peak-hour. Although focused on motor vehicle travel, the system described in this section is multi-modal, with design criteria intended to serve motor vehicle mobility needs while reinforcing the urban form of the 2040 Growth Concept. While the motor vehicle system usually serves bicycle and pedestrian travel, the system is designed to limit impacts of motor vehicles on pedestrian and transit-oriented districts.

Finally, the Regional Transportation Plan must demonstrate that it defines an adequate transportation system to serve planned land uses. The motor vehicle performance measures identified in Table 1.2 serve as the basis for making this determination.

In areas of special concern, substitute performance measures identified in Chapter 6 will be used to make a determination of whether the transportation system is adequate to serve planned land uses. Areas with this designation are planned for mixed used development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided. Figure 1.13 in this chapter defines areas where this designation applies. In these areas, substitute performance measures are allowed by OAR.660.012.0060(1)(d). Provisions for determining the alternative performance measures are included in Section 6.7.7 of this plan. Adopted performance measures for these areas are detailed in Appendix 3.6.

Table 1.2

Regional Motor Vehicle Performance Measures

Deficiency Thresholds and Operating Standards[1]

Location	Mid-Day One-Hour Peak			A.M./P.M. Two-Hour Peak					
	Preferred Operating Standard	Acceptable Operating Standard	Exceeds Deficiency Threshold	Preferred Operating Standard		Acceptable Operating Standard		Exceeds Deficiency Threshold	
				1st Hour	2nd Hour	1st Hour	2nd Hour	1st Hour	2nd Hour
Central City **Regional Centers** **Town Centers** **Main Streets** **Station Communities**	C	E	F	E	E	F	E	F	F
Corridors **Industrial Areas** **Intermodal Facilities** **Employment Areas** **Inner Neighborhoods** **Outer Neighborhoods**	C	D	E	E	D	E	E	F	E
Banfield Freeway[1] *(from I-5 to I-205)*	C	E	F	E	E	F	E	F	F
I-5 North* *(from Marquam Bridge to Interstate Bridge)*	C	E	F	E	E	F	E	F	F
Highway 99E[1] *(from the Central City to Highway 224 interchange)*	C	E	F	E	E	F	E	F	F
Sunset Highway[1] *(from I-405 to Sylvan interchange)*	C	E	F	E	E	F	E	F	F
Stadium Freeway[1] *(I-5 South to I-5 North)*	C	E	F	E	E	F	E	F	F
Other Principal Arterial Routes	C	D	E	E	D	E	E	F	E
Areas of Special Concern	Areas with this designation are planned for mixed used development, but are also characterized by physical, environmental or other constraints that limit the range of acceptable transportation solutions for addressing a level-of-service need, but where alternative routes for regional through-traffic are provided. Figures 1.13.a-e in this chapter define areas where this designation applies. In these areas, substitute performance measures are allowed by OAR.660.012.0060(1)(d). Provisions for determining the alternative performance measures are included in Section 6.7.7 of this plan. Adopted performance measures for these areas are detailed in Appendix 3.3.								

Level-of-service is determined by using either the latest edition of the Highway Capacity Manual (Transportation Research Board) or through volume to capacity ratio equivalencies as follows: LOS C = .8 or better; LOS D = .8 to .9; LOS E = .9 to 1.0; and LOS F = 1.0 to 1.1. A copy of the level of service tables from the Highway Capacity Manual is shown in Appendix 1.6.

[1] Thresholds shown are for interim purposes only; refinement plans for these corridors are required in Chapter 6 of this plan, and will include a recommended motor vehicle performance policy for each corridor.

Source: Metro

Figure 1.13.a
Portland Central City
Area of Special Concern

The Portland central city area east of the Willamette River and generally within the I-405 freeway ring has an extensive grid of well-connected arterial, collector and local streets. The Willamette River bridges are a key part of the transportation system, connecting the central city and adjacent neighborhoods to the region. The hilly topography has constrained much of the transportation system in the Northwest and Southwest portions of the central city. Despite these limitations, this area is expected to continue to be served by high-quality transit and be conducive to bicycle and pedestrian travel. Refer to Appendix 3.3 for detail on alternative performance measures identified for this area of special concern.

Figure 1.13.b
Gateway Regional Center
Area of Special Concern

Gateway regional center is defined as a major crossroads of transportation that is impacted by through traffic that is not destined for the regional center such and which presents barriers to local circulation where congested through-streets isolate some parts of the regional center. Refer to Chapter 6 for detail on refinement planning identified for this area of special concern.

Figure 1.13.c
Beaverton Regional Center
Area of Special Concern

Beaverton has historically been defined as a crossroads of transportation, with both the advantages and limitations that heavy through traffic brings. While the level of access has helped make the Beaverton regional center a focus of commerce in Washington County, it also presents barriers to local circulation where congested through-streets isolate some parts of the area. Refer to Appendix 3.3 for detail on alternative performance measures identified for this area of special concern.

Figure 1.13.d
Highway 99W
Area of Special Concern

The Highway 99W corridor between Highway 217 and Tualatin Road is designated as a mixed-use corridor in the 2040 Growth Concept and connects the Tigard and Tualatin town centers. This corridor is also designated as an area of special concern due to existing development patterns and economic constraints that limit adding capacity to address heavy travel demand in this corridor. Local planning studies have found that approximately 50 percent of the traffic using this corridor is local. The Regional Transportation Plan establishes the proposed I-5 to 99W connector as the principal route connecting the Metro region to the 99W corridor outside of the region as an alternative to 99W. Refer to Chapter 6 for detail on refinement planning identified for this area of special concern.

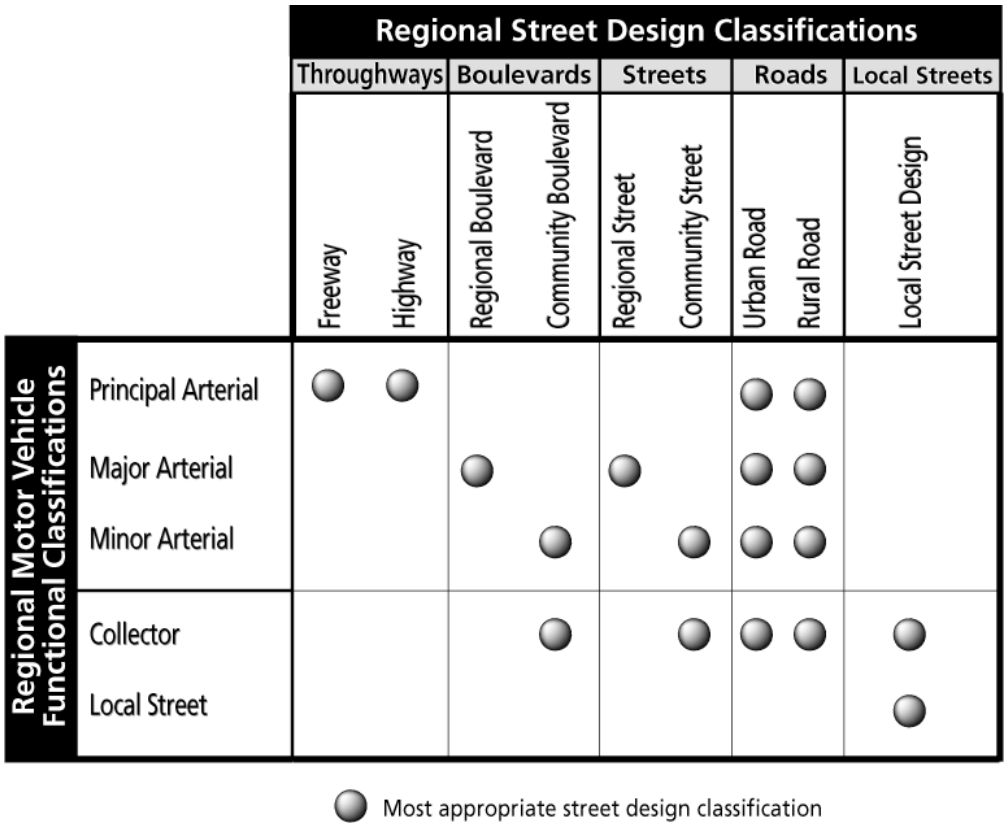
Figure 1.13.e
Tualatin Town Center
Area of Special Concern

Tualatin town center is adjacent to an important industrial area and employment center. New street connections and capacity improvements to streets parallel to 99W and I-5 help improve local circulation and maintain adequate access to the industrial and employment area in Tualatin. However, the analysis of travel demand on regional streets shows that several streets continue to exceed the LOS policy established in Table 1.2, including Hall Boulevard and Boones Ferry Road. Refer to Chapter 6 for detail on refinement planning identified for this area of special concern.

Regional Motor Vehicle Functional Classification System

The regional motor vehicle system includes principal arterials, major and minor arterials, rural arterials and collectors of regional significance. These routes are designated on the motor vehicle system map, Figure 1.12. Local comprehensive plans also include additional minor arterials, collectors and local streets. Figure 1.14 provides a chart of the regional motor vehicle functional classifications and their relationship to the regional street design classifications. The most appropriate street design classification for roadways that serve a given functional classification is indicated with a solid circle(s). Following Figure 1.14 is a detailed description of the regional motor vehicle functional classification categories.

Figure 1.14
Relationship Between Regional Street Design and Motor Vehicle Classifications



Source: Metro

The following are the regional functional classification categories:

Principal arterials: These facilities form the backbone of the motor vehicle network. Motor vehicle trips entering and leaving the urban area follow these routes, as well as those destined for the central city, regional centers, industrial areas or intermodal facilities. These routes also form the primary connection between neighbor cities and the urban area. Principal arterials serve as major freight routes, with an emphasis on mobility. These routes fall within regional freeway, highway and road designs, as defined in the regional street design concepts.

Principal arterial system design criteria:

- Principal arterials should provide an integrated system that is continuous throughout the urbanized area and should also provide for statewide continuity of the rural arterial system.
- The principal arterial system should serve the central city, regional centers, industrial areas and intermodal facilities, and should connect key freight routes within the region to points outside the region.

- A principal arterial should provide direct service: from each entry point to each exit point or from each entry point to the central city. If more than one route is available, the most direct route will be designated as the principal arterial when it supports the planned urban form.

Major arterials: These facilities serve as primary links to the principal arterial system. Major arterials, in combination with principal arterials, are intended to provide general mobility for travel within the region. Motor vehicle trips between the central city, regional centers, industrial areas and intermodal facilities should occur on these routes. Major arterials serve as freight routes, with an emphasis on mobility. These routes fall within regional boulevard, regional street, urban road and rural road designs, as defined in the regional street design concepts.

Major arterial system design criteria:
- Major arterials should provide motor vehicle connections between the central city, regional centers, industrial areas and intermodal facilities and connect to the principal arterial system. If more than one route is available, the more direct route will be designated when it supports the planned urban form.
- Major arterials should serve as primary connections to principal arterials, and should also connect to other arterials, collectors and local streets, where appropriate.
- Freight movement should not be restricted on the principal arterial network.
- The principal and major arterial systems in total should comprise 5-10 percent of the motor vehicle system and carry 40-65 percent of the total vehicle miles traveled.

Minor arterials: The minor arterial system complements and supports the principal and major arterial systems, but is primarily oriented toward motor vehicle travel at the community level connecting town centers, corridors, main streets and neighborhoods. As such, minor arterials usually serve shorter trips than principal and major arterials, and therefore must balance mobility and accessibility demands. Minor arterials may serve as freight routes, providing both access and mobility. These routes fall within community boulevard, community street, urban road and rural road designs, as defined in the regional street design concepts.

Minor arterial system design criteria:
- Minor arterials generally connect town centers, corridors, main streets and neighborhoods to the nearby regional centers or other major destinations.
- Minor arterials should connect to major arterials, collectors, local streets and some principal arterials, where appropriate.
- The principal, major and minor arterial system should comprise 15-25 percent of the motor vehicle system and carry 65-80 percent of the total vehicle miles traveled.

Rural arterials: The rural arterial system serves urban reserve areas, rural reserve areas and green corridors. There are two functional categories of rural arterial – urban-to-urban and farm-to-market. Urban-to-urban rural arterials provide key connections to the regional motor vehicle system and 2040 land-use components inside the urban growth boundary. While principal arterials provide primary connections from the Metro region to neighboring cities, urban-to-urban rural arterials also function as secondary connections to neighboring cities. Farm-to-market rural arterials provide farm-to-market access between urban and rural areas.

Collectors: While some collectors are of regional significance, most of the collector system operates at the community level to provide local connections to the minor and major arterial systems. As such, collectors

carry fewer motor vehicles than arterials, with reduced travel speeds. However, an adequate collector system is needed to serve these local motor vehicle travel needs. Collectors may serve as freight access routes, providing local connections to the arterial network. Collectors fall within the plan's local street design principles.

Collectors of regional significance connect the regional arterial system and the local collector system by collecting and distributing neighborhood traffic to arterials. Collectors of regional significance have three purposes. First, these facilities ensure adequate access to the primary and secondary land-use components of the 2040 Growth Concept. Second, collectors of regional significance allow dispersion of arterial level traffic over a number of lesser facilities where an adequate local street network exists. Third, collectors of regional significance help define appropriate collector level movement between jurisdictions.

Collector system design criteria:

- Collectors should connect neighborhoods to nearby centers, corridors, station areas, main streets and other nearby destinations.
- Collectors should connect to minor and major arterials and other collectors, as well as local streets.
- The collector system should comprise 5-10 percent of the motor vehicle system and carry 5-10 percent of the total vehicle miles traveled.

Local streets: The local street system is used throughout the region to provide for local circulation and access. However, arterials in the region's newest neighborhoods are often the most congested due to a lack of local street connections. The lack of local street connections forces local auto trips onto the principal and major arterial network, resulting in significant congestion on many suburban arterials. These routes fall within the plan's local street design principles.

Local Street System Design Criteria:

- Local streets should connect neighborhoods, provide local circulation and give access to adjacent centers, corridors, station areas and main streets.
- The local street system should be designed to serve local, low-speed motor vehicle travel with closely interconnected local streets intersecting at no more than 530-foot intervals. Closed local street systems are appropriate only where topography, environmental or infill limitations exist. Local streets should connect to major and minor arterials and collectors at a density of 10 to 16 street intersections per mile.
- Local streets should comprise 65-80 percent of the motor vehicle system and carry 10-30 percent of the total vehicle miles traveled.

Policy 14.0. Regional Public Transportation System
Provide an appropriate level, quality and range of public transportation options to serve this region and support implementation of the 2040 Growth Concept, consistent with Figures 1.15 and 1.16.

a. Objective: Serve this region with appropriate public transportation service as defined in Figures 1.15 and 1.16.
b. Objective: Continue to work with local jurisdictions and Tri-Met to implement Tri-Met's Transit Choices for Livability community transit plan.
c. Objective: Provide transit service that is accessible to the mobility impaired and provide para-transit to the portions of the region without adequate fixed-route service to comply with the Americans with Disabilities Act of 1990.
d. Objective: Develop a long-term strategy for potential use of freight railroad lines for passenger use and work with jurisdictions inside and outside of the Metro area to explore other commuter rail opportunities.

Policy 14.1. Public Transportation Awareness and Education
Expand the amount of information available about public transportation to allow more people to use the system.

a. Objective: Increase awareness of public transportation and how to use it through expanded education and public information media and easy to understand schedule information and format.
b. Objective: Improve mechanisms for receiving and responding to feedback from public transportation users.
c. Objective: Explore new technologies to improve the availability of schedule, route, transfer and other service information.

Policy 14.2. Public Transportation Safety and Environmental Impacts
Continue efforts to make public transportation an environmentally-friendly and safe form of motorized transportation.

a. Objective: Continue to reduce the amount of air pollutants and noise generated by public transportation vehicles.
b. Objective: Support efforts by the region's transit providers to improve the existing level of passenger safety and security on public transportation and reduce the number of avoidable accidents involving transit vehicles.

Policy 14.3. Regional Public Transportation Performance
Provide transit service that is fast, reliable and has competitive travel times compared to the automobile.

a. Objective: Transit travel time (in-vehicle) for trips on light rail transit and rapid bus routes during the peak hours of service should be no slower than 150 percent of the auto travel time during the off-peak hours. Exceeding this threshold would result in considering preferential treatment to the road system for transit and express operation.
b. Objective: Total transit travel time (in-vehicle + non-weighted wait time) for trips on regional bus routes should be no slower than 200 percent of the total auto travel time.

These policies and objectives direct the region's planning and investment in the regional public transportation system. Public transportation has been an increasingly important component of our region's transportation system during the past 25 years. In the next 20 years, public transportation will play a critical role in linking people to activity centers throughout the region and getting them around their local communities. On an average weekday in 1998, approximately 186,000 riders used the bus and rail systems in this region. By 2020 that number is expected to increase to 500,000 riders as a result of expected growth and transit improvements identified in this plan.

Figure 1.15
Relationship Between 2040 Growth Concept and Public Transportation System

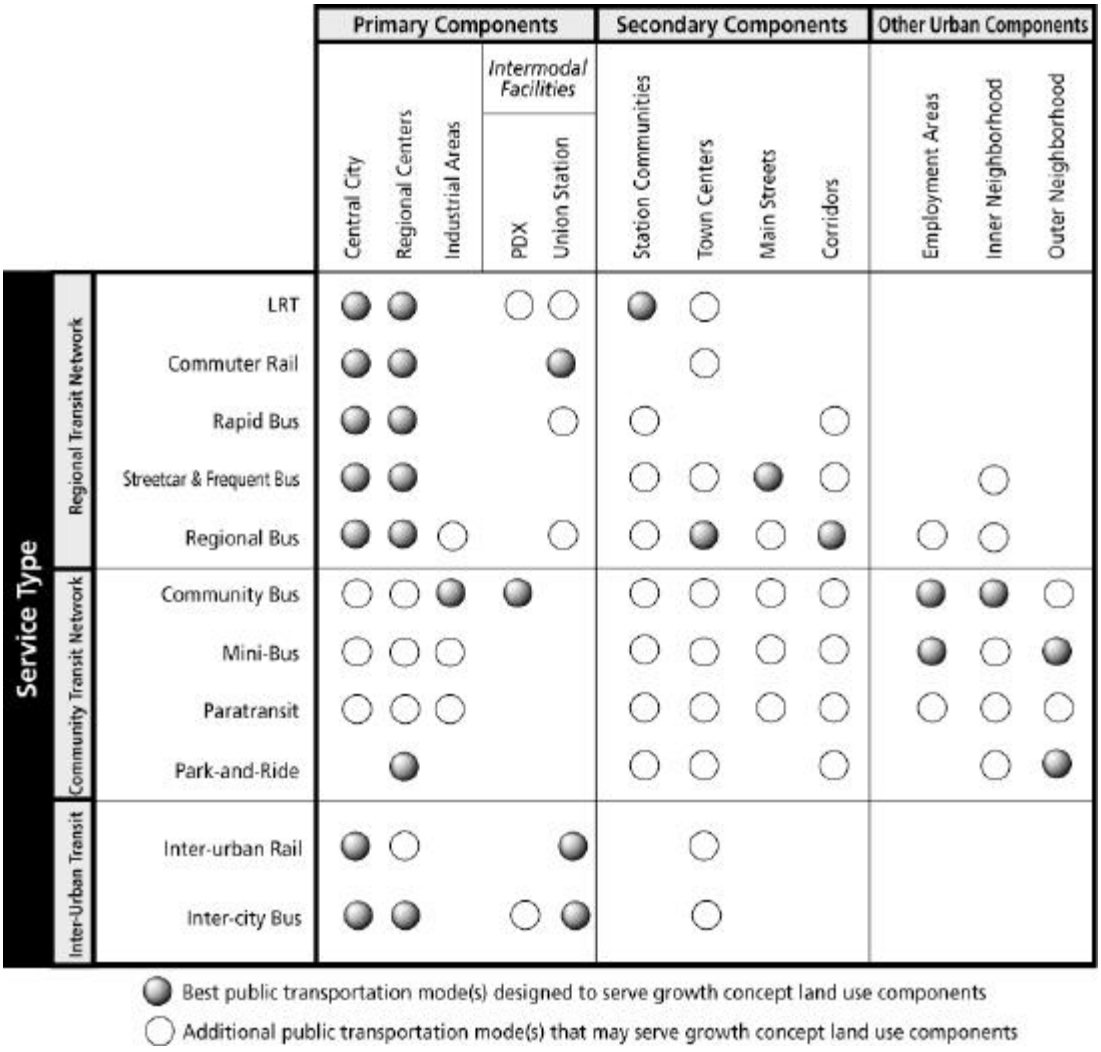


Figure 1.15 provides a hierarchy of public transportation service for 2040 Growth Concept land-use components. "Core service" is defined as the most efficient level of public transportation service planned for a given land use and is indicated with a solid circle(s). A description of each type of core service follows the public transportation policies.

Source: Metro

Regional public transportation system components

Metro's role is to establish a 20-year plan for regional transit improvements, such as major bus or rail service, through the Regional Transportation Plan. Tri-Met is the primary public transportation provider for the metropolitan region and is committed to providing the appropriate level of transit service to achieve regional 2040 Growth Concept objectives. Tri-Met implements transit improvements identified in the Regional Transportation Plan through annual updates and expansions to their service plan. In addition, Tri-Met plans for improvements to community-level transit service, such as local bus lines or lift

services. Annual growth trends, ridership and traffic congestion are all considerations in where expanded transit service is most needed each year.

However, this plan recognizes that providers other than Tri-Met are needed to serve special transportation needs. Other public transit operators in region include SMART, which serves the Wilsonville area, and C-Tran, which serves Clark County and includes bus service to points in Portland. Metro works with these operators, as well, to ensure that planned transit service is adequate to meet our 20-year needs. While this is not required in this plan, Metro is committed to helping coordinate agreements to address special needs as they arise. Such special needs may be served by private service providers, public/private partnerships, or public actions, as appropriate.

Public transportation should serve the entire urban area, and the hierarchy of service types described in this section defines what level and type of service is appropriate for specific areas of the region. The public transportation system is divided in three categories based on frequency of service and the areas of the region each network serves – the regional transit network, or RTN; the community transit network, or CTN; and interurban public transportation. The regional public transportation system map, Figure 1.16, depicts the regional transit network and interurban public transportation components.

The following section describes:

- the types of transit service each network provides;
- the principal 2040 Growth Concept land-use components (primary and secondary) served by each service type; and
- facility design guidelines to provide an appropriate operating environment and level of pedestrian and bicycle accessibility.

Regional transit network

The regional transit network is a fast and frequent transit system designed to serve the primary land-use components identified in the 2040 Growth Concept, including central city, regional centers, industrial areas and intermodal facilities such as the Portland International Airport. This system serves as the framework for consistency among plans of local jurisdictions and Tri-Met and consists of six major transit modes that operate at frequencies of 15 minutes or less all day. The six primary transit modes included in this plan are light rail transit, commuter rail, rapid bus, streetcar, frequent bus and regional bus service. The regional transit network is designed to provide convenient transit access and improve connections between transit modes. Any transit trip between two points located in a primary or secondary 2040 Growth Concept land-use component could be completed on the regional transit network. This includes the central city, regional centers, town centers, main streets, stations areas or corridors. The following is a description of the functional and operational characteristics of the regional transit network's major transit modes.

Light rail transit. Light rail transit (LRT) is a frequent and high-capacity service that operates on a fixed guideway within an exclusive right-of-way to the extent possible, connecting the central city with regional centers. LRT also serves existing regional public attractions such as Civic Stadium, the Oregon Convention Center and the Rose Garden, and station communities. LRT service runs at least every 10 minutes during the weekday and weekend midday base periods with limited stops and operates at higher speed outside of downtown Portland. A high level of passenger amenities are provided at transit stations and station communities including schedule information, ticket machines, special lighting,

benches, shelters, bicycle parking and commercial services. The speed and schedule reliability of LRT can be maintained by the provision of signal preemption at-grade crossings and/or intersections.

Commuter rail. Commuter rail is the use of existing freight railroad tracks either exclusively or shared with freight use, for passenger service. The service is typically focused on peak commute periods but can be offered other times of the day when demand exists and where rail capacity is available. The stations are typically located one or more miles apart, depending on the overall route length. Stations offer basic amenities for passengers, bus and LRT transfer opportunities and parking if supported by adjacent land uses.

Rapid bus. Regional rapid bus service emulates LRT service in speed, frequency and comfort, serving major transit routes with limited stops. This service runs at least every 15 minutes during the weekday and weekend mid-day base periods. Passenger amenities are concentrated at transit centers. Regional rapid bus passenger amenities include schedule information, ticket machines, special lighting, benches, covered bus shelters and bicycle parking.

Street cars. Street cars provide fixed-route transit service for more locally oriented trips in higher density mixed-use centers. This service runs at least every 15 minutes and includes transit preferential treatments such as signal preemption and enhanced passenger amenities along the corridor such as covered bus shelters, curb extensions and special lighting.

Frequent bus. Frequent bus service provides slightly slower, but more frequent, local bus service than rapid bus along selected transit corridors. This service runs at least every 10 minutes and includes transit preferential treatments such as reserved bus lanes and signal preemption and enhanced passenger amenities along the corridor and at major bus stops such as covered bus shelters, curb extensions, special lighting and median stations.

Regional bus. Regional bus service is provided on most major urban streets. This type of bus service operates with maximum frequencies of 15 minutes with conventional stop spacing along the route. Transit preferential treatments and passenger amenities such as covered bus shelters, special lighting, signal preemption and curb extensions are appropriate at high ridership locations.

Major transit stops. Major transit stops are intended to provide a high degree of transit passenger comfort and access. Major transit stops are located at stops on light rail, commuter rail, rapid bus, frequent bus or streetcar lines in the central city, regional and town centers, main streets and corridors. Major transit stops may also be located where bus lines intersect or serve intermodal facilities, major hospitals, colleges and universities. Major transit stops shall provide schedule information, lighting, benches, shelters and trash cans. Other features may include real time information, special lighting or shelter design, public art and bicycle parking.

Pedestrian district. A pedestrian district is a comprehensive plan designation or implementing land use regulations designed to provide safe and convenient pedestrian circulation, with a mix of uses, density, and design that support high levels of pedestrian activity and transit use. The pedestrian district can be a concentrated area of pedestrian activity or a corridor. Pedestrian districts can be designated within the 2040 Design types of Central City, Regional and Town Centers, Corridors and Main Streets, as designated in local plans. Pedestrian districts emphasize a safe and convenient pedestrian environment, and facilities to support and integrate efficient use of several modes within one area (e.g., pedestrian, auto, transit, and bike).

Community transit network (CTN)

Underlying the primary transit network of fast and frequent service is a community network of transit service that provides more locally-oriented public transportation. Tri-Met and local jurisdictions will develop specific elements of the community transit network. The community transit network is comprised of community bus, mini-bus, para-transit and park-and-ride service. This service is focused more on accessibility, frequency of service along the route and coverage to a wide range of land use options rather than on speed between two points. Community transit is designed as an alternative to the single-occupant vehicle by providing frequent reliable service. Community bus service generally is designed to serve travel with one trip end occurring within a secondary land use component, including town centers, main streets, station communities and corridors.

Community bus. Community bus lines provide coverage and access to primary and secondary land-use components. Community bus service runs as often as every 30 minutes on weekdays. Weekend service is provided as demand warrants.

Mini-bus. Mini-bus service provides coverage in lower density areas by providing transit connections to primary and secondary land-use components. Mini-bus services, which may range from fixed route to purely demand responsive including dial-a-ride, employer shuttles and bus pools, provide at least a 60-minute response time on weekdays. Weekend service is provided as demand warrants.

Para-transit. Para-transit service is defined as non-fixed route service that serves special transit markets, including "ADA" service throughout the greater metro region.

Park-and-ride. Park-and-ride facilities provide convenient auto access to regional trunk route service for areas not directly served by transit. Bicycle and pedestrian access as well as parking and storage accommodations for bicyclists are considered in the siting process of new park-and-ride facilities. In addition, the need for a complementary relationship between park-and-ride facilities and regional and local land use goals exists and requires periodic evaluation over time for continued appropriateness.

Interurban public transportation

The federal ISTEA has identified interurban travel and passenger "intermodal" facilities (e.g., bus and train stations) as a new element of regional transportation planning. The following interurban components are important to the regional transportation system:

Passenger rail. Inter-city high-speed rail (up to 79 miles per hour) is part of the state transportation system and extends from the Willamette Valley north to British Columbia. Amtrak already provides service south to California, east to the rest of the continental United States and north to Canada. These systems should be integrated with other public transportation services within the metropolitan region with connections to passenger intermodal facilities. High-speed rail needs to be complemented by urban transit systems within the region.

Inter-city bus. Inter-city bus connects points within the region to nearby destinations, including neighboring cities, recreational activities and tourist destinations. Several private inter-city bus services are currently provided in the region.

Passenger intermodal facilities. Passenger intermodal facilities serve as the hub for various passenger modes and the transfer point between modes. These facilities are closely interconnected with urban

public transportation service and highly accessible by all modes. They include Portland International Airport, Union Station and inter-city bus stations.

Transit service for special needs populations

Public transportation service often provides the only available transportation service to many people in the region, including students, the elderly, the economically disadvantaged, the mobility impaired and others with special needs. It is important that the region's transportation service providers consider the special needs of those people who rely on their services as their primary transportation option for access to jobs, job training and services. Section 6.8.12 describes a collaborative effort that is underway for special transportation planning in the tri-county area. As sponsors of this plan, the Areas Agencies on Aging and Disabilities of Washington, Multnomah and Clackamas counties, Tri-Met and the Special Transportation Fund Advisory Committee are coordinating a broad-based effort to create an elderly and disabled transportation services plan. The plan will develop special needs transportation options for both the urban and rural portions of the tri-county area and will be included in the Regional Transportation Plan. In anticipation of completing this program, interim policies and objectives have been included in the RTP. These policies will be updated during the next RTP update, reflecting the recommendations from the special needs transit plan.

Policy 15.0. Regional Freight System

Provide efficient, cost-effective and safe movement of freight in and through the region.

a. Objective: Provide high-quality access between freight transportation corridors and the region's freight intermodal facilities and industrial sanctuaries.
b. Objective: Maintain a reasonable and reliable travel time for moving freight through the region in freight transportation corridors that enhances the region's economic competitive advantage.
    - Freight operation (such as weigh-in-motion, automated truck counts, enhanced signal timing on freight connectors).
    - Where appropriate, consider improvements that are dedicated to freight travel only.
c. Objective: Consider the movement of freight when conducting multi-modal transportation studies.
d. Objective: Work with the private sector, local jurisdictions, ODOT and other public agencies to:
    - develop the regional Intermodal Management System (IMS) and Congestion Management System (CMS)
    - monitor the efficiency of freight movements on the regional transportation network
    - identify existing and future freight mobility problems and opportunities
    - reduce inefficiencies or conflicts on the freight network
    - maximize use of ship, rail, air and truck for a multi-modal freight system
    - address safety concerns related to freight.
e. Objective: Coordinate public policies to reduce or eliminate conflicts between current and future land uses, transportation uses and freight mobility needs, including those relating to:
    - land use changes/encroachments on industrial lands; and
    - transportation and/or land use actions or policies that reduce accessibility to terminal facilities or reduce the efficiency of the freight system.
f. Objective: Ensure that jurisdictions develop local strategies that provide adequate freight loading and parking strategies in the central city, regional centers, town centers and main streets.
g. Objective: Develop improved measures of freight movement as defined in the 2040 Growth Concept.
h. Objective: Correct existing safety deficiencies on the freight network relating to:
    - roadway geometry and traffic controls;
    - bridges and overpasses;
    - at-grade railroad crossings;
    - truck infiltration in neighborhoods; and
    - congestion on interchanges and hill climbs.

Policy 15.1. Regional Freight System Investments
Protect and enhance public and private investments in the freight network.

a. Objective: Improve opportunities for partnerships between the private freight transportation industry and public agencies to improve and maintain the region's integrated multi-modal freight network:
- work with the private transportation industry, Oregon Economic Development Department, Portland Development Commission, Port of Portland and others to identify and realize investment opportunities that enhance freight mobility and support the state and regional economy

b. Objective: Analyze market demand and linkages in estimating and expanding the life of public investments in the freight network.

c. Objective: Encourage efforts to provide flexible public funding for freight mobility investments.

These policies and objectives direct the region's planning and investment in the regional freight system. Freight mobility is the movement of goods and services. National and international freight movement contributes significantly to our regional economy, and will likely play an even larger role in the future. The region's relative number of jobs in transportation and wholesale trade exceeds the national average. The regional economy has historically, and continues to be, closely tied to the transportation and distribution sectors. This trend is projected to continue. A study of goods movement in the region, the 2040 Commodity Flow analysis, predicts freight volume to more than double by 2040 – a rate higher than projected population growth.

The significant growth in freight projected by the 2040 Commodity Flow Analysis indicates the need to make available adequate land for expansion of intermodal facilities, manufacturing, wholesale and distribution activities, and to continue maintaining and enhancing the freight transportation network. The 2040 Growth Concept identifies industrial sanctuaries for distribution and manufacturing activities. Figure 1.17 identifies the transportation infrastructure and intermodal facilities that serve these land uses and commodities that flow through the region to national and international markets.

Regional freight system functional classification system
The following definitions reflect the regional freight system functional classification categories shown in Figure 1.17.

Main roadway route. Main roadway routes connect major activity centers in the region to other areas in Oregon or other states throughout the U.S., Mexico and Canada.

Road connectors. A road that connects freight facilities or freight generation areas to the main roadway route.

Main railroad line. Class I rail lines (e.g., Union Pacific and Burlington Northern / Sante Fe).

Branch railroad lines. Non-Class I rail lines, including shortline or branch lines.

Marine facility. A facility where freight is transferred between water-based and land-based modes.

Reload facility. A facility that serves as the primary gateway for freight entering and leaving the region by truck.

Air cargo facility. A facility that has direct access to an airport runway and transfers commodities between airplanes and land-based modes.

Distribution facility. A facility where freight is reloaded from one land-based mode to another for further distribution.

Truck terminal. A facility that serves as a primary gateway for commodities entering/leaving the region by truck. A truck terminal operates only truck to truck transfers of commodities.

Intermodal facility. An intermodal facility is a transportation element that accommodates and interconnects different modes of transportation and serves the statewide, interstate and international movement of people and goods.

Intermodal railyard. An intermodal railyard is a railyard that facilitates the transfer of containers or trailers between truck and rail.

Policy 16.0. Regional Bicycle System Connectivity
Provide a continuous regional network of safe and convenient bikeways connected to other transportation modes and local bikeway systems, consistent with regional street design guidelines.

a. Objective: Integrate the efforts of the state, counties and cities in the region to develop a convenient, safe, accessible and appealing regional system of bikeways.
b. Objective: Design the regional bikeway system to function as part of the overall transportation system and include appropriate bicycle facilities in all transportation projects.
c. Objective: Integrate multi-use paths with on-street bikeways, consistent with established design standards.
d. Objective: Work with local jurisdictions, ODOT and other public agencies to identify high-frequency bicycle-related crash locations and improvements to address safety concerns in these locations.

Policy 16.1. Regional Bicycle System Mode Share and Accessibility
Increase the bicycle mode share throughout the region and improve bicycle access to the region's public transportation system.

a. Objective: Promote increased bicycle use for all travel purposes.
b. Objective: Coordinate with Tri-Met to improve bicycle access and parking facilities at existing and future light rail stations, transit centers and park-and-ride locations.
c. Objective: Work with local jurisdictions, ODOT and other public agencies to provide appropriate short and long-term bicycle parking and other end-of-trip facilities at regional activity centers through the use of established design standards.
d. Objective: Develop travel-demand forecasting for bicycle use and integrate with regional transportation planning efforts.

These policies and objectives direct the region's planning and investment in the regional bicycle system. The bicycle is an important component in the region's strategy to provide a multi-modal transportation system. The 2040 Growth Concept focuses growth in the central city and regional centers, station communities, town centers and main streets. One way to meet the region's travel needs is to provide more opportunities to use bicycles for shorter trips.

The regional bikeway system identifies a network of bikeways throughout the region that provide for bicyclist mobility between and accessibility to and within the central city, regional centers and town centers. A complementary system of on-street and off-street regional bikeway corridors, regional multi-use trails and local bikeways is proposed to provide a continuous network. In addition to major bikeway corridors that create a network of regional through-routes, the system provides accessibility to and within regional and town centers.

Regional bicycle functional classification system
The following are the regional bicycle system functional classification categories as identified in Figure 1.18. These classifications, including regional access bikeways, regional corridor bikeways and community connector bikeways, are on-street bikeways that would be designed using a flexible "toolbox" of bikeway designs, including bike lanes, shoulder bikeways, bicycle boulevards and shared roadway / wide outside lanes. The appropriateness of each design is based on adjacent motor vehicle speeds and volumes. The most appropriate bikeway design is defined in the regional street design concepts and in *Creating Livable Streets: Street Design Guidelines for 2040*. Regional streets provide the

primary network for bicycle travel in the region, and require features that support bicycle traffic. Bicycle lanes are the preferred bikeway design for throughway (highway), boulevard, street and road design classification concepts.

Regional access bikeway: The function of regional access bikeways is to focus on accessibility to and within the central city, regional centers and some of the larger town centers. Bicyclist travel time to and from activity centers is an important consideration on regional access bikeways. Regional access bikeways generally have higher bicyclist volumes because they serve areas with higher population and employment density.

Regional corridor bikeway: Regional corridor bikeways function as longer routes that provide point-to-point connectivity between the central city, regional centers and larger town centers. Regional corridor bikeways are generally of longer distance than regional access bikeways and community connector bikeways. Regional corridor bikeways generally have higher automobile speeds and volumes than community connector bikeways.

Community connector bikeway: These bikeways connect smaller town centers, main streets, station areas, industrial areas and other regional attractions to the regional bikeway system.

Multi-use paths with bicycle transportation function: Multi-use paths with a bicycle transportation function are connections that are likely to be used by people bicycling to work or school, to access transit or to travel to a store, library or other local destination. Multi-use paths that support both utilitarian and recreational bicycle functions are included as part of the bicycle transportation system.
Bicycle / pedestrian sidewalks on bridges are also included in this functional classification. In terms of design, multi-use paths are physically separated from motor vehicle traffic by open space or a barrier, and are either within the highway right-of-way or within an independent right-of-way. In addition to bicyclists, pedestrians, joggers, skaters and other non-motorized travelers use multi-use paths.

Policy 17.0. Regional Pedestrian System
Design the pedestrian environment to be safe, direct, convenient, attractive and accessible for all users.

a. Objective: Work with local, regional and state jurisdictions to complete pedestrian facilities (i.e., sidewalks, street crossings, curb ramps) needed to provide safe, direct and convenient pedestrian access to and within the central city, regional centers, town centers, main streets, corridors and to the region's public transportation system.
b. Objective: Work with local, regional and state jurisdictions to provide landscaping, pedestrian-scale street lighting, benches and shelters affecting the pedestrian and transit user near and within the central city, regional centers, town centers, main streets, corridors and along the regional transit network.

Policy 17.1. Regional Pedestrian Mode Share
Increase walking for short trips and improve pedestrian access to the region's public transportation system through pedestrian improvements and changes in land use patterns, designs and densities.

a. Objective: Increase the walk mode share for short trips, including walking to public transportation, near and within the central city, regional centers, town centers, main streets, corridors and LRT station communities.
b. Objective: Work with local, regional and state jurisdictions to improve walkway networks serving transit centers, stations and stops.

Policy 17.2. Regional Pedestrian Access and Connectivity
Provide direct pedestrian access, appropriate to existing and planned land uses, street design classification and public transportation, as a part of all transportation projects.

a. Objective: Among regional pedestrian projects, give funding priority to those projects which are most likely to increase pedestrian travel, improve the quality of the pedestrian system and help complete pedestrian networks near and within the central city, regional centers, town centers, main streets, corridors and LRT station communities.
b. Objective: Integrate pedestrian access needs into planning, programming, design and construction of all transportation projects.

These policies and objectives direct the region's planning and investment in the regional pedestrian system as defined in Figure 1.19. By providing dedicated space for those on foot or using mobility devices, pedestrian facilities are recognized as an important incentive that promotes walking as a mode of travel. Throughout this plan, the term "walking" should be interpreted to include traveling on foot as well as those pedestrians using mobility aids, such as wheelchairs. Walking for short distances is an attractive option for most people when safe and convenient pedestrian facilities are available. Combined with adequate sidewalks and curb ramps, pedestrian elements such as benches, curb extensions, marked street crossings, landscaping and wide planting strips make walking an attractive, convenient and safe mode of travel. The focus of the regional pedestrian system is identifying areas of high, or potentially high, pedestrian activity in order to target infrastructure improvements that can be made with regional funds.

A well-connected high-quality pedestrian environment facilitates walking trips by providing safe and convenient access to pedestrian destinations within a short distance. Public transportation use is enhanced by pedestrian improvements, especially those facilities that connect stations or bus stops to surrounding areas or that provide safe and attractive waiting areas. Improving walkway connections between office and commercial districts and surrounding neighborhoods provides opportunities for

residents to walk to work, shopping or to run personal errands. This reduces the need to bring an automobile to work and enhances public transportation and carpooling as commute options.

Regional pedestrian system functional classification

An integrated pedestrian system supports and links every other element of the regional transportation system and complements the region's land-use goals. The following definitions reflect the regional pedestrian system functional classification categories shown in Figure 1.19.

Pedestrian district: Pedestrian districts are areas of high, or potentially high, pedestrian activity where the region places priority on creating a walkable environment. Specifically, the central city, regional and town centers and light rail station communities are areas planned for the levels of compact mixed-use development served by transit needed to generate substantial walking. These areas are defined as pedestrian districts. Pedestrian districts should be designed to reflect an urban development and design pattern where walking is a safe, convenient and interesting travel mode. These areas will be characterized by buildings oriented to the street and boulevard-type street design features such as wide sidewalks with buffering from adjacent motor vehicle traffic, marked street crossings at all intersections with special crossing amenities at some locations, special lighting, benches, bus shelters, awnings and street trees. All streets within pedestrian districts are important pedestrian connections.

Transit/mixed-use corridor: Transit / mixed-use corridors (referred to only as corridors in the 2040 Growth Concept) are also priority areas for pedestrian improvements. They are located along good-quality transit lines and will be redeveloped at densities that are somewhat more than today. These corridors will generate substantial pedestrian traffic near neighborhood-oriented retail development, schools, parks and bus stops. These corridors should be designed to promote pedestrian travel with such features as wide sidewalks with buffering from adjacent motor vehicle traffic, street crossings at least every 530 feet (unless there are no intersections, bus stops or other pedestrian attractions), special crossing amenities at some locations, special lighting, benches, bus shelters, awnings and street trees. This designation includes multi-modal bridges.

Multi-use path with pedestrian transportation function: These paths are paved off-street regional facilities that accommodate pedestrian and bicycle travel and meet the requirements of the Americans with Disabilities Act. Multi-use paths with a pedestrian transportation function are connections that are likely to be used by people walking to work or school, to access transit or to travel to a store or library. These paths are generally located near or in residential areas or near mixed-use centers. Paths that support purely recreational uses are not considered part of this transportation network, although they are important components of the regional parks and greenspaces map. Pedestrian / bicycle-only bridges also are included in this designation.